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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,292	12/30/2005	Kohei Hori	1030673-000204	8147
21839 7590 07/13/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER YOUNG, EDWIN	
			ART UNIT 3681	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/563,292

Applicant(s)

HORI, KOHEI

Examiner

Edwin A. Young

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/30/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This is the first action on the merits for application 10/563,292. Claims 1 and 2 are currently pending in this application.

#### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/JP04/18570, filed on 12/13/2004.

#### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 12/30/2005 has been considered by the examiner.

#### ***Drawings***

The drawings are objected to because they contain extraneous subject matter and therefore do not comply with 37 CFR 1.84. Figures 2, 4 and 5 should have the extraneous subject matter, i.e. comparisons and wordings below the actual figures, removed. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

The claims are objected to because they include reference characters which are not enclosed within parentheses, i.e.  $r_1$ ,  $r_{21}$  and  $r_{23}$ .

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claim 2 is objected to because of the following informalities: the word "Here" after each equation should be changed to - -where- -, since a claim must begin with a capital letter and end with a period. Therefore, the additional capital letters of "Here" should be replaced by a lower case - -where- -, which also better describes that the variables belong to their respective equations. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The period at the end of line 6 in claim 3 should be relocated to the end of equation (3), after the numeral "(3)". This change should be made to clarify that the equations are part of the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admission of prior art.

Regarding claim 1, applicant's admission of prior art discloses a composite planetary gear device (see paragraphs [0004] and [0005] and Figure 5). The composite planetary gear device comprising a planetary gear mechanism equipped with a sun gear, at least one planetary gear and an internal gear and a planetary roller mechanism equipped with a sun roller, at least one planetary roller and a ring roller, wherein the sun gear and the sun roller are integrally rotated around a common rotating center axis, the corresponding planetary gear and the planetary roller are integrally rotated around a common planetary shaft, and the internal gear and the ring roller rotate integrally around the rotating center axis or can be fixed concentrically (see paragraph [0004] and Figure

5); wherein a radius of the sun roller is larger by  $\Delta r_1$  than a radius ( $r_1$ ) of a working pitch circle of the sun gear; a radius of the planetary roller is smaller by  $\Delta r_1$  than a radius ( $r_2$ ) of a working pitch circle of the planetary gear; the radius ( $r_2$ ) of the working pitch circle of the planetary gear meshing with the sun gear is larger than a radius of a working pitch circle of the planetary gear meshing with the internal gear.

Note that according to the reference "Pitch Diameter", working pitch radius is defined to be:

$$r' = (\text{operating centre distance of mesh}) / ((z_2/z_1) + 1)$$

where:  $z_2$ : number of teeth in gear;

$z_1$ : number of teeth in pinion.

According to Figure 5: number of teeth in sun gear < number of teeth in pinion < number of teeth in internal gear. Therefore, the denominator for the case when the planetary gear meshes with the sun gear will be less than the denominator for the case when the planetary gear meshes with the internal gear. Furthermore, the "operating centre distance of mesh" is equivalent to ( $r_2$ ). As a result, according to the above equation the radius of the working pitch circle of the planetary gear meshing with the sun gear will be larger than a radius of a working pitch circle of the planetary gear meshing with the internal gear.

### ***Allowable Subject Matter***

Claim 2 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- KUBO et al. (US 5,092,190) discloses a composite planetary gearset (see Figs. 1-3).
- SUCHOCKI (US 3,548,673) discloses a composite gearset (see Fig. 1).
- MENJAK et al. (US 2004/0154422 A1) discloses a composite gearset (see Figs. 13-21).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. Young whose telephone number is 571-272-4781. The examiner can normally be reached on M-TH 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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EAY

*Charles A. Marmor* 7/9/07  
CHARLES A. MARMOR  
SUPERVISORY PATENT EXAMINER  
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